<div align="center">REMARKS</div>

In light of the above amendatory matter and remarks to follow, reconsideration and allowance of this application are respectfully solicited.

In the Office Action under reply, claims 1-17 and 19-25, all the claims remaining in this application, once again were rejected under 35 USC 103, primarily as being obvious in view of the combination of Hennes, Kimpara and Deering, all relied upon in the previous Office Action. These references were further combined with individual secondary references to reject various ones of dependent claims 5, 6, 11, 13-16 and 19-20.

From the stated reasons for the rejections of at least claims 1-4, 7-10, 12, 17 and 21-25, Applicants' representative believes that the recitation of the "overall state detection means" may have been misinterpreted or not fully appreciated. Accordingly, even though Applicants' representative believes these claims were patentably distinct over the combination of Hennes, Kimpara and Deering in their previous form, independent claims 1, 7 and 21-25 nevertheless are amended to avoid such misinterpretation.

It is respectfully submitted there remain fundamental differences between Applicants' independent claims and the cumulative teachings of Hennes, Kimpara and Deering. It is further submitted that the interpretation of these references, as set out in the Office Action under reply, is based solely upon Applicants' disclosure and is not supported by the teachings of these references themselves. The withdrawal of the rejection of Applicants' claims and the allowance of this application are respectfully requested for the reasons provided below.

In applying Hennes to, for example, Applicants' claim 1, the Examiner took the position that Hennes describes, at col. 6, lines 36-41, individual state detection means for detecting "the individual states of the members of the audience" as allegedly recited in claim 1. Since claim 1 states that the individual state detection means detects individual load conditions of the members

of the audience, it is assumed that Hennes is being interpreted as describing such individual load-detecting state detection means. However, Hennes provides no means whatsoever of detecting "individual load conditions of the members of the audience." Rather, Hennes provides sensors 510 that are "motion-sensors or beam-interrupt devices to detect general audience motion and position, and may also comprise or include microphones..." (col. 6, lines 46-48). There is no suggestion here of detecting individual load conditions.

Hennes also is interpreted in the Office Action as describing auxiliary information means for supplying auxiliary information that indicates whether input content is video or audio and, if video, then the supplied auxiliary information is indicative of the scene in the video content. It is respectfully submitted, however, that Hennes' program that is displayed simply is controlled to select a sequence of images (col. 6, lines 53-62) without any input of that program to show-control device 520. That is, in Hennes, the particular scene that may be displayed is of no consequence. The images that are displayed are selected in response to audience motions and/or sounds (col. 6, lines 62-64) irrespective of the particular scene or image that is actually being projected.

The Office Action also construes Hennes as describing an audience state determination unit for estimating whether the audience response is one of a predetermined number of types of responses. It is respectfully submitted, however, that this interpretation of Hennes is inapposite because Applicants' claim 1 specifies particular types of responses which, the Examiner agrees, are not described by Hennes.

The Examiner notes that Hennes does not describe an overall state detection means that detects motion vectors of individual audience members and that produces information indicative of a respective response state and response load conditions of those members. It appears that the recitation of the "overall state detection means" of claim 1 possibly was not sufficiently definite.

Accordingly, claim 1 is amended to recite "motion vector determining means for... determining motion vectors in said image [of members, as represented by an input image signal]." Amended claim 1 also calls for audio determining means responsive to input audio signals representing sounds generated by the audience to determine a sound state of that audience. Accordingly, the audience response is determined by the determination means of claim 1 on the basis of the determined <u>motion vectors in the image of the audience</u>, and the determined sound state of the audience, and the detected <u>load conditions of the individual members</u> of the audience and the auxiliary information; and this audience response is estimated to be "if a majority of said audience is intently watching or listening to said content," "if a majority of said audience is clapping or singing along with the content," "if a majority of said audience is clapping or shouting," "if a majority of said audience is applauding or cheering" and "if a majority of said audience is standing." These features of Applicants' claim 1 is asserted, in the Office Action under reply, to be disclosed by Kimpara. It is respectfully submitted that Kimpara fails to describe such features.

Kimpara does not determine motion vectors in the image of the audience, as called for by Applicants' claim 1. Rather, Kimpara matches the tempo of music with the movement of an image picked up by a television camera. However, there is no suggestion in Kimpara of detecting <u>motion vectors in the image</u> of the audience. While motion is sensed, motion vectors are neither detected nor used. Rather, and as explained in Applicants' paper filed in response to the previous Office Action, Kimpara uses a television camera to generate an image from which "a balancing point on [sic *in the*] area of the moving image which is surrounded by the outline" is calculated (col. 3, lines 59-61 of Kimpara); and this movement of the "balancing point" is used to vary the tempo of music. While there is no definition of Kimpara's "balancing point," it appears that this "balancing point" is the center of gravity of the outlined image inputted from the

television camera. Kimpara describes movement of the balancing point from point a to point e and judges whether this movement "lies within 90 degrees or above 270 degrees" (col. 4, lines 11-14). The only reference in Kimpara to a "vector" is found at col. 4, lines 16-18, "This variation angle [in Fig. 4] can be defined as an angle of vector bc inclined against vector ab in counterclockwise direction."

It is respectfully submitted, the movement of Kimpara's "balancing point" or center of gravity is not a motion vector in the image represented by image signals, as called for by Applicants' claim 1. Kimpara does not suggest that motion vectors in the image of individual members of the audience should be determined, as recited by Applicants' claim 1. Rather, Kimpara simply determines whether an image moves and turns by determining the movement of his "balancing point." Kimpara determines movement of the "balancing point" in a single object. Kimpara fails to suggest that the <u>motion vectors</u> in the image of the members of the audience should be determined. At best, Kimpara states that the musical tone "can be automatically varied in response to the movements of the audience (e.g., clapping, hand-beating, stepping, shaking movements of the audience)." But such movements are not described or even remotely suggested as being the motion vectors in the image of the audience.

The Office Action asserts that the combination of Hennes and Kimpara suggests, to one of ordinary skill in the art, that it will be obvious to estimate the specific audience response states identified in Applicants' claim 1 because

> "there are only so many possible solutions available... for estimating audience responses.... Further, there would be no technological hurdles which would result in an unreasonable expectation of success..." (see the paragraph bridging pages 5 and 6 of the Office Action).

But, claim 1 specifies audience response states that go beyond the audience responses mentioned by Hennes and Kimpara. Hennes simply senses "the action of an audience, such as the motion of individual members of the audience or groups of individuals within the audience, or sound

produced by an individual or group of individuals within the audience" (col. 6, lines 38-41).

Kimpara simply states that his invention

> "also has the effect in that the musical tone of the electronic musical instrument can be automatically varied in response to the movements of the audience (e.g., clapping, hand-beating, stepping, shaking movements of the audience)" (column 7, lines 47-51).

But, Kimpara simply responds to movements. He does not estimate the particular state of the audience response to select the audience response as a function of that estimate. While there very well may be a finite number of audience response states, it does not follow that the combination of Hennes and Kimpara would suggest to one of ordinary skill in the art the use of an audience determination unit,

> for estimating if a majority of said audience is intently watching or listening to said content, for estimating if a majority of said audience is clapping or singing along with the content, for estimating if a majority of said audience is clapping or shouting, for estimating if a majority of said audience is applauding or cheering and for estimating if a majority of said audience is standing, and for selecting the audience response as a function of said estimating.

Sensing movement does not inherently result in estimating if a majority of the audience is intently watching or listening to the content, or standing. Sensing sound does not inherently result in estimating if a majority of the audience is singing or shouting or cheering.

Furthermore, because of Applicants' disclosure, there no longer are "technological hurdles" to be overcome to achieve that which Applicants' invention has achieved. It is submitted, however, that patentability is not measured by the height of "technological hurdles." Rather, patentability is based upon obviousness -- and obviousness has not been demonstrated here.

The Examiner recognizes that the combination of Hennes and Kimpara fails to suggest overall state detection means for producing information indicative of a respective one of plural response states of the individuals in the audience and for producing load information indicative

of a respective response load condition of those individual members. Admittedly, this recitation

of claim 1 might be subject to an erroneous interpretation; and for this reason, this recitation has

been deleted. Claim 1 now recites "image input means...," "motion vector determining means...,"

"sound input means...," and "audio determining means..." Claim 1 continues to recite "individual

state detection means for detecting individual load conditions of the members of the audience."

The Office Action contends that Deering describes, at col. 6, lines 7-47, a related content

presentation system that uses a body position-sensing chair and pressure sensors to assist the

system in determining the state of the audience. However, Deering is concerned with providing

useful information about the position and movement of a viewer's point of foveation relative to a

display device. Many devices are suggested for tracking the gaze of the viewer. Nevertheless,

such devices fail to represent the individual response states of the members of the audience to

displayed content, as recited by Applicants' claim 1.

The foregoing features that distinguish Applicants' invention from the cumulative

teachings of Hennes, Kimpara and Deering are pointed out in claim 1 as follows:

image input means for inputting image signals representing an image of members
of said audience;

motion vector determining means for receiving said image signal and <u>determining
motion vectors in said image</u>;

sound input means for inputting audio signals representing sounds generated by
said .members of such audience;

audio determining means responsive to said audio signals to determine a sound
state of said audience;

individual state detection means for detecting individual load conditions of the
members of the audience, <u>thereby representing the individual response states of
the members of the audience</u>;

auxiliary information means for supplying auxiliary information indicating
whether the content currently is displayed and, if so, whether said content is video

or audio content and, <u>if video content, said auxiliary information is indicative of a</u> <u>scene in said video content;</u>

determination means for <u>determining the audience response on the basis of   said</u> <u>determined motion vectors, said determined sound state of said audience, the</u> <u>detected load conditions of said members, and said supplied auxiliary</u> <u>information,</u> and

… audience state determination unit for <u>estimating if a majority of said audience</u> <u>is intently watching or listening</u> to said content, for <u>estimating if a majority of said</u> <u>audience is</u> clapping or <u>singing along</u> with the content, for <u>estimating if a majority</u> <u>of said audience is</u> clapping or <u>shouting,</u> for <u>estimating if a majority of said</u> <u>audience is</u> applauding or <u>cheering</u> and for <u>estimating if a majority of said</u> <u>audience is standing,</u> and for <u>selecting the audience response as a function of said</u> <u>estimating.</u>

It is, therefore, respectfully submitted that the combination of Hennes, Kimpara and Deering does not enable one of ordinary skill in the art to make and use Applicants' invention defined by claim 1. Accordingly, the withdrawal of the rejection of claim 1 is respectfully solicited.

Claims 7 and 21-25 include recitations that are similar to those recitations of claim 1, discussed above. It follows, then, that claims 7 and 21-25 are patentably distinct over the combination of Hennes, Kimpara and Deering for those reasons argued with respect to claim 1. Accordingly, the rejection of these independent claims should be withdrawn.

The remaining claims depend from a respective one of independent claims 1, 7 and 21-25. These dependent claims include all of the limitations recited by the independent claim from which they respectively depend. The additional teachings of the secondary references to Imagawa (relied upon to reject claims 5, 6, 19 and 20); Lu (relied upon to reject claim 11); Stevenson (relied upon to reject claim 13); Alberts (relied upon to reject claims 14 and 15); and King (relied upon to reject claim 16) fail to cure the aforenoted deficiencies of Hennes, Kimpara and Deering. Imagawa was relied upon for describing floor sensors to monitor a person's motion, weight or walking pattern. This is for the purpose of controlling a predetermined control

object. Imagawa has nothing to do with sensing an audience response to displayed content. Consequently, the question arises: why would the floor sensors of Imagawa, used to monitor weight, be used with Hennes who merely wants to monitor movement?
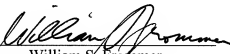
It is respectfully submitted, claims 1-17 and 19-25, all the claims remaining in this application, are patentably distinct over the prior art of record and are in condition for allowance.

Statements appearing above in respect to the disclosures in the cited references represent the present opinions of the undersigned attorney and, in the event the Examiner disagrees with any of such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the references providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Respectfully submitted,

FROMMER LAWRENCE & HAUG LLP
Attorneys for Applicants

By William S. Frommer
Reg. No. 25,506
(212) 588-0800